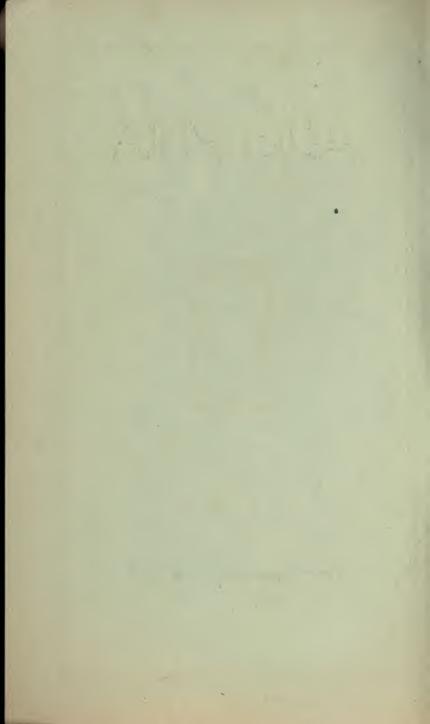
ADELPHA BOILERS



Booklet No. 41B

*523

BORDEN STOVE CO. PHILADELPHIA, PA.



ILLUSTRATED BOOKLET No. 41B

ADELPHIA

and PROGRESS

STEAM and HOT WATER

BOILERS

ALSO

TANK and LAUNDRY WATER HEATERS

Catalogs, Booklets, Folders, etc., on RADIATION, WARM AIR FURNACES (Pipe and Pipeless), CABINET RANGES, LEG RANGES, HEATING STOVES, GARAGE HEATERS, LAUNDRY STOVES, GAS RANGES, OIL COOK STOVES and REFRIGERATORS, will be mailed upon request.

BORDEN STOVE CO.

GENERAL OFFICES and SHOW ROOMS
1311-1313 ARCH STREET
PHILADELPHIA

Prices quoted to the trade upon application

OUR MOTTO

If you want that cold room warmer
And the coal bill smaller
Install an ADELPHIA or PROGRESS Boiler

PREFACE

HE extensive line of Round and Sectional type of Steam and Hot-water boilers here depicted under the trade names ADELPHIA and PROGRESS, in efficiency and economy of operation as well as appearance. stand in a class unapproached. These boilers have been carefully designed, based upon years of experience, and, when molded, each boiler is assembled in individual units and all parts accurately tested and fitted. The result is that the dealer receives an A-1 appliance, which may be quickly assembled and guaranteed to give results.

In comparing boilers, it is suggested that grate surface, fire travel and general construction be considered, and on this basis it will be found that ADELPHIA and PROG-RESS are rated conservatively. In many instances an ADELPHIA or PROGRESS boiler of a lower rating will perform equally as efficient service as competing boilers much higher rated.

Economy of maintenance is more important than first cost of the appliance. Ease of assembling is important to the fitter. These are two of the many points in which ADELPHIA and PROGRESS Boilers excel.

An extensive and fine line of Tank Heaters, Laundry Water Heaters and Laundry Stoves is also displayed in this booklet.

BORDEN STOVE CO.



Registered U. S. Pat. Office

"QUALITY that makes friends, SERVICE that keeps them."

ADELPHIA ROUND BOILER

THE ADELPHIA round boiler is constructed on the most scientific principles to meet the demand for an efficient boiler at a moderate price, combining economy in fuel consumption with ease of installation and simplicity of operation. The ratings, as enumerated on pages 6 and 7, are very conservative and are based upon the actual coal carrying capacity of the boiler, viz.: the depth of the fire pot, or distance from the bottom of the feed door to the top of the grate, multiplied by the grate area.

WATER CIRCULATION

Rapid and unobstructed circulation of the water is obtained by the construction of the fire pot, wheel sections and dome sec-



Wheel Section showing push nipple connections and four flue openings for fire travel.

tions, which are joined together with 4-inch cast iron push nipples. This two - nipple construction insures freer and divided circulation. It also makes the entire area of the boiler easily cleaned from the front clean-outs. Ports or openings in the wheel sections, into which the push nipples are fitted, are shown in the accompanying illustration. Every surface of the ADELPHIA boiler touched by fire is backed by water. This is a distinct

advantage over the "Jacket" type in efficiency and saving in repair cost.

"WE Furnish the Entire Equipment, the DEALER Installs It."

FIRE TRAVEL

THE travel of the fire and hot gases from the fire pot section to the dome section is through staggered ports or alternate openings in the wheel sections, which cause the flames to "mushroom" between each section. This insures the greatest percentage of prime heating surface.

FIREPOT—The coal-carrying capacity is the secret of a boiler's power. ADELPHIA has a deep firepot, which accounts for its endurance between firing periods. ADELPHIA firepots have practically straight sides. This gives an equal area for combustion from top to bottom, and the draft is not choked down by the inward slope, thus clogging the lower sides with ashes. The wheel sections are the full width of the bottom of the firepot, thus affording that much greater heating area.

SLICING DOOR—The wide slicing door on ADELPHIA makes it easy to get at and remove any clinkers.

GRATES—The grates are of the triangular revolving type, which are not only the most efficient, but the most easily operated. By merely inserting the shaker over the shank of the grate, the grates are shaken with little effort, half of the grates being operated through each of the two openings. The grates may be easily removed by taking out cotter pins. The removable ashpit sides on our boiler mean that only a small casting need be replaced should



Base with Revolving Triangular Grates.

any of the teeth become broken or burned out.

THE BASE is high with ample space under the grates so that the ashpit may be easily cleaned.

SMOKE HOOD— The round elbow hood enables the fitter to run a straight standard-size pipe direct from the collar to the chimney. The

turn damper in the hood is located below the check, thus preventing the coal gas being forced through the check and into the cellar. The direct control of the butterfly doors in the ash pit and smoke hood from opposite ends of the diaphragm rod obviates the friction and the labor of installing long ceiling chain and pulleys.

Install ADELPHIA or PROGRESS and have the Best.





ADELPHIA STEAM BOILER

STEAM DOME—In the steam dome ample space has been provided to secure "dry steam." The advantage of superheated or dry steam in adding to the efficiency of the modern steam-heating apparatus is well known.

SPECIFICATIONS

Number	4-175	5-178	6-17S	4-215	5-218	6-215	4-25S	5-25S	6-25 9
List Price, \$	141.50	159.00	167.00	201.00	219.50	234.50	289.50	318.00	348.00
Rating, sq. ft. Ht. Top of grate	275	325	350	425	500	550	650	750	850
to bottom of feed door Grate area,	14	14	14	14	14	14	16	16	16
sq. ft Diam. of fire	1.5	1.5	1.5	2.8	2.8	2.8	3.5	3.5	3.5
pot Flow and return	161/2	16 1/2	161/2	20 1/2	20 1/2	20 1/2	25 1/4	25 1/4	25 1/4
(two each)	2 1/2	2 1/2	2 1/2	3	3	3	3	3	3
collar (round) Ht. of water-	6	6	6	7	7	7	8	8	8
line Height to flow	42	46	50	43	47	51	46	50	54
opening		52	56	49	53	57	52	56	60



ADELPHA WATER BOILER

WATER DOME—The dome in ADELPHIA water boiler is quite low, and this boiler having thin waterways, it is unnecessary to circulate a large volume of water, a decided advantage over the high-dome type.

			SPECI	FICAT	IONS				
	7 W	7 W	7 W	*	≥	*	8	*	25 W
Number	4-1	5-17	6-17	4-2	5-2	6-2	4-25	5-25	6-25
List Price, \$	132.50	149.00	157.00	191.50	207.00	225.50	279.50	309.00	338.50
Rating, sq. ft. Ht. top of grate to bot- tom of feed		525	575	675	800	900	1075	1250	1400
door Grate area,	14	14	14	14	14	14	16	16	16
sq. ft Diam. of fire	1.5	1.5	1.5	2.8	2.8	2.8	3.5	3.5	3.5
Flow and re- turn (two	161/2	161/2	161/2	20 1/2	20 1/2	20 ½	25 1/4	25 1/4	25 1/4
each) Size of smoke collar	2 1/2	2 ½	2 1/2	3	3	3	3	3	3
(round) Height to flow	6	6	6	7	7	7	8	8	8
opening		46	50	43	47	51	46	50	54

"ADELPHIA Needs But Little Care."

NO ONE feature in the scientific construction of a househeating boiler is more important to the house owner than the design of the waterways. Obstructed or inefficient waterways produce a sluggish circulation in the boiler sections, which result in a feeble temperature in the radiators, and even large expenditures for fuel will often not overcome this difficulty.

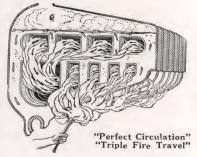
EFFICIENT DESIGN

In the Thatcher "Progress" Boiler a design was perfected after many years of study and tests which developed such remarkable efficiency that, although many improvements have been made in keeping this boiler thoroughly up to date, the basic principle

of the triangular-shaped sections, producing "Perfect Circulation" and "Triple Fire Travel" has not been changed through many years of its manufacture.

TRIPLE FIRE TRAVEL

It will be noted from the accompanying illustration that the flames and hot gases pass three times through the entire length of the boiler before their final exit into the smoke flue and that they completely



surround the perpendicular water tubes of each section.

PERFECT CIRCULATION

It will also be noted that the water flows up over the hottest fire and down over the back of each section where the fire is least intense. This causes a very rapid and unobstructed circulation through the differet passageways for the rising heated water and the returning cooler currents. In many types of boilers this is not the case, and the hot and cold currents coming into direct contact with each other produce a slow and interrupted circulation.

The side feed construction of "Progress" Boilers, on account of the short depth of grate, insures ease in firing, and all parts of the fire pot are readily accessible.

FUEL ECONOMY

IN THE interests of fuel economy mention should be made of the advantage in being able to temporarily shut off a part of the grate which would not be required in milder weather. This is a feature peculiar to the "Progress," in that only the bars in use need be shaken and cleaned out, while those grates not in use are left motionless. Around the outer edge of the grate is a deeply corrugated base lining, which admits a free passage of air to the sides of the fire and insures efficient combustion.



Triangular Grates

TRIANGULAR GRATES. Experience has proven to us that heavy triangular shaped grate bars are by far the most serviceable and much the most easily handled type of grate for house heating purposes. The fire may be merely agitated, thoroughly cleaned or completely dumped in one-half the time required with the usual flat grates.

The "Progress" has two

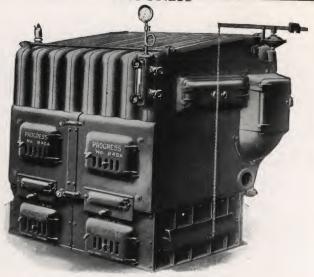
triangular grates to each section with one shaker grate to each pair. A heavy shaker handle is furnished with which the grates are easily oscillated or revolved, and the fire can in this way be cleaned or dumped without effort. These grates are furnished on the 22-inch and 28-inch series, which are particularly adapted for private houses and for the ordinary moderate-sized dwellings.

THE FLAT TYPE GRATES are preferable in buildings sufficiently large to require janitor service when the 40-inch series are usually furnished. The grate rocking attachment is located on the outside at the rear, which does away with any possibility of the parts being burnt or warped and, therefore, in-

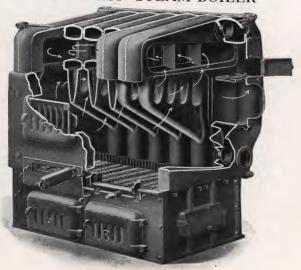


Flat Grates

sures ease of operation at all times. Grate bars are constructed so that by connecting them together in pairs or triplets the shaking and cleaning is easily and thoroughly effected. -PROGRESS-



No. 840-S "Progress" Steam Boiler Showing "BV" Damper Regulator With Flat Grates "PROGRESS" STEAM BOILER



No. 728-W "Progress" Hot Water Boiler
With Triangular Grates
"PROGRESS" HOT WATER BOILER

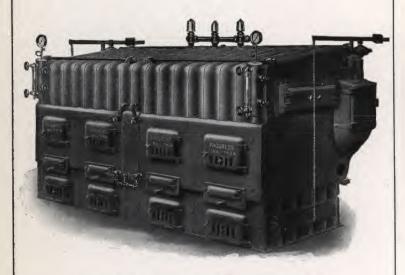
STE	AM		"F	RO	GRE	SS B	DILEF	RS"		HOT WATER			
Series A No. 5	Rating	List Price	Length	Depth	Height	Grate Area, Sq. Ft.	Flow & Return Tappings, 2 Each, inch	Smoke Collar inches	Feed doors	No. W	Rating	List Price	
522	800	\$340.00	55	39	53	4.69	4	10	1	522	1300	\$330.00	
622	1100	430.00	62	39	53	5.80	4	10	1	622	1850	420.00	
722	1450	535.00	69	39	53	6.92	4	10	2	722	2400	525.00	
822	1800	640.00	76	39	53	8.02	4	10	2	822	2975	630.00	
В									1				
528	1150	445.00	55	46	55	5.98	4	12	1	528	1925	435.00	
628	1550	565.00	62	46	55	7.32	4	12	1	628	2600	555.00	
728	2000	685.00	69	46	55	8.80	4	12	2	728	3350	675.00	
828	2450	805.00	76	46	55	10.22	4	12	2	828	4100	795.00	
*928	2900	925.00	83	46	55	11.62	4	12	2	*928	4850	915.00	
*1028	3350	1045.00	90	46	55	13.02	4	12	2	*1028	5650	1035.00	
C					1					1020	0000	1000.00	
	2600	840.00	66	64	64	10.55		40					
	3200	990.00	73	64	64	12.57	5	18 18	1	640	4350	830.00	
	3800	1140.00	80	64	64	14.58	5	18	2	740	5275	980.00	
	4500	1290.00	87	64	64	16.53	5	18	2 2	840	6325	1130.00	
	5200	1440.00	94	64	64	18.61	5	18	2	940	7500	1280.00	
	5900	1590.00	102	64	64	20.62	5	18	3	1040	8675	1430.00	
*1240	6700	1740.00	109	64	64	22.63	5	18	4	**1240	9850	1580.00	
*1340	7500	1890.00	116	64	64	24.03	5	18	4	**1340	$11175 \\ 12500$	1730.00	
*1440	8300	2040.00	123	64	64	26.66	5	18	4	**1440	13850	1880.00 2030.00	

WATERLINE: 48-inch in A and B series Boilers: 55-inch in C series Boilers.

All other C series are furnished with one C2 flue section.

^{*}These Boilers are furnished with one B2* section—located next to the smoke exist end section. All C series Boilers are furnished with one C2 Flue section—located next to the smoke exit end section.

^{**}These Boilers are furnished with two C2 flue sections—located next to the smoke exit end section.



No. 1740 D. S. "Progress" Double Steam Boiler

With Flat Grates

"PROGRESS" DOUBLE STEAM BOILER

TWENTY-EIGHT-INCH SERIES

No. T. S.	Rating	List Pr.	Length less trim	No.	Rating	List Pr.	Length less trim
1228	3500 4000	\$1290 1410	94 1/4	1728 1828	5800 6250	\$1930 2050	130½ 137¾
1428 1528	4450 4900	1550 1690	108 3/4	1928	6700	2170	145
1628	5350	1810	123 1/4				

FORTY-INCH SERIES

1640 8	000 \$2330	116	2240	12600	\$3380	1663/4
	000 2480	123 ¼	2340	13400	3530	174
	000 2630	130 ½	2440	14200	3680	1811/4
1840 9 1940 10 2040 11	000 2630 000 2780 000 2930 000 3080 000 3240	130 ½ 137 ¾ 145 152 ¼ 159 ½	2440 2540 2640 2740 2840	15000 15800 16600 17300	3830 3980 4130 4280	188 ½ 195 ¾ 203 210 ¼

BOILER RATINGS

ADELPHIA and PROGRESS BOILERS are conservatively rated on the basis of heating the building evenly to 70 degrees in zero weather. To meet the possibility of below zero weather, it is advisable to provide a reserve capacity—that is, a boiler of sufficient size so that it may be regulated, rather than forced, even in the coldest weather. In being able to always regulate the fire, by means of the delicately balanced draft door on all ADELPHIA and PROGRESS BOILERS, just the proper amount of fuel is consumed to create a genial warmth in the rooms above—while in forcing a fire a considerable amount of coal is wasted.

STEAM BOILER ratings are based on maintaining two pounds pressure at the boiler, and WATER BOILER ratings are based on the water being maintained at a temperature of 180 degrees at the boiler. SUFFICIENT RADIATION must be installed to easily raise and maintain a temperature of 70 degrees in zero weather.

RATINGS are for cast-iron DIRECT radiators with average amount of surface in mains, risers and returns. Usual allowance must be made for the use of PIPE COILS, WALL RADIATORS, DIRECT-INDIRECT, INDIRECT RADIATION and CONTINGENCIES.

(1) PIPE COILS OR WALL RADIATORS.

Each foot of surface is considered equivalent to 11/4 feet of direct radiation.

(2) DIRECT-INDIRECT RADIATORS.

Each foot of surface is considered equivalent to 11/3 feet of direct radiation.

(3) INDIRECT RADIATORS.

Each foot of surface is considered equivalent to 11/2 feet of direct radiation.

(4) COIL or WATER BACK.

For warming water (domestic supply). Each gallon storage capacity is considered equivalent to 2 feet of direct steam radiation, or 3 feet of direct water radiation.

ALL PIPING (mains, returns, risers, etc.) is to be figured as radiating surface. Under ordinary conditions an allowance for PIPING and FACTOR OF SAFETY is considered equal to approximately 50% of the net amount of the direct radiators. RE-QUIRED RATINGS of boilers are determined by adding 50% to the DIRECT CAST-IRON RADIATORS exclusive of piping. The above 50% addition is equivalent to a deduction of 33 1/3% from listed ratings.

RATINGS are based on ANTHRACITE COAL as fuel and that boilers shall be covered with non-conducting material.

BOILERS are guaranteed only to the extent of furnishing new castings for any found defective in manufacture. All castings are thoroughly tested and subjected to a rigid inspection before leaving the foundry. On account of the varying conditions surrounding their installation, we do not guarantee our boilers except as above.

"WE Furnish the Entire Equipment, the DEALER Installs It."



No. 4

No. 2

No. 1

ADELPHA ROUND-TOP, HOT-WATER SUPPLY BOILERS

N THE large Household, Restaurant, Hotel or Institution, and in many places of Business, as well as Stables and Garages, an abundant supply of hot water available at all times is extremely important.

The ADELPHIA Round-Top Hot-Water Supply Boilers were designed particularly to supply these requirements, with an economy of fuel and ease of operation that is really remarkable in a heater of this type.

From the moment the water begins to absorb the heat it rises freely and rapidly through the firepot section into the dome section and finally into the storage tank and hot-water supply pipes. The ADELPHIA has an exceptionally deep firepot, allowing a sufficient charge of fuel to last from twelve to fifteen hours without attention.

Supplying requirements ranging from capacity of 150 gallons to 400 gallons per hour, the ADELPHIA may be selected to suit the exact needs. The larger sizes will successfully heat small bungalows, garages, etc., by means of hot-water radiation. Both tank and radiators can be heated at one time also.

D	IM	EN	SIO	NS

· oZ	Capacity in Gallons Per Hour	Rating Sq. Ft. Radiation	Inside Diam. of Fire Pot	Total Height	Height to Center of Return	Flows and Returns Tapped	Size of Sm. Pipe
1 2 4	150	120	10 in.	31½ in.	9 in.	2 in.	6 in.
	300	240	12 in.	38¼ in.	12 ¼ in.	2½ in.	7 in.
	400	320	14 in.	40¼ in.	12 ¼ in.	2½ in.	7 in.



No. 100

No. 200 has extra deep ash pit, triangular mechanical grate, base rests on ground, water jacket overhanging top. No. 200 water jacket is tapped on both right and left hand side of section. Both sizes have deep brick-lined firepot, assuring easy fire maintenance. Large round top fitted with center 8" cover. Improved draft slide an exclusive feature, which is valuable in promoting combustion.

CAPACITY:

No. 100 recommended for 30 to to 50 gallon size tank. No. 200 recommended for 60 to 80 gallon size tank.

The No. 200 is particularly adapted for the "all-gas kitchen." When placed in cellar will supply 30-gallon tank of HOT WATER and heat 40 to 60 feet of radiation at the same time, thus promoting comfort and convenience.

Ask for separate circular on CROWN-ADELPHIA Garage Heater

HOT WATER

For Bathing, Washing, Shaving and all domestic purposes—all you need as you need it when and where you need it—obtained easily and economically through the installation of a

CROWN ADELPHIA

coal tank heater in your cellar. Sufficient warmth to keep out summer dampness and all heat is away from the kitchen. The latest improved and best tank heater on the market. Smooth castings. Attractive appearance. Moderate price. Embodies many exclusive and original features. Heats more water with less attention than any other heater of its size or type on the market. No. 100 E deep and level ash pit flat dumping grate. Mounted on legs. Water section reversible to allow connection on back or either side.



SPECIFICATIONS

No.	in Gals.	Inside Diameter Fire Pot	Depth Fire Pot	Width of Top	Flows and Returns Tapped	Size of Smoke Pipe
100E	30 to 50	9"	12"	15"	1"	4" oval
200G	60 to 80	11"	13 1/2"	17"	1"	5" oval

Furnished with galvanized water jacket if desired



No. 28

ACTIVE LAUNDRY AND WATER HEATER

This stove will accommodate nine irons around the sides. It has also a large flat top to heat a standard wash boiler. There are two eight-inch covers and one removable center piece. It may be fitted with a pipe coil that will furnish from 30 to 40 gallons of HOT water per hour, if desired, listed as the No. 28 C.

SPECIFICATIONS

Heater No.	Capacity in gals, per Hour	Inside Diameter Fire-Pot Inches	Depth of Fire-Box Inches	Width of Top Inches	Height to Top Inches	Height to Center of Return Inches	Flows and Returns Tapped Inches	Size of Oval Smoke Pipe
28		12	. 6	23	24			4 1/2
28-C	30-40	12	6	23	24	18 1/2	1	4 1/2

ADELPHIA .

AREA OF CIRCLES

Size	Area	Size	Area	Size	Area	Size	Area
1/8	0.0123	10	78.54	30	706.86	65	3318.3
1/4	0.0491	101/2	86.59	31	754.76	66	3421.2
3/8	0.1104	11	95.03	32	804.24	67	3525.6
1/2	0.1963	111/2	103.86	33	855.30	68	3631.6
1/8 1/4 3/8 1/2 5/8 3/4 7/8	0.3076	12/2	113.09	34	907.92	69	3739.2
3/4	0.4417	121/2	122.71	35	962.11	70	3848.4
7/8	0.6013	13	132.73	36	1017.8	71	3959.2
1	0.7854	131/2	143.13	37	1075.2	72	4071.5
11/8	0.9940	14	153.93	38	1134.1	73	4185.3
1/4	1.227	141/2	165.13	39	1194.5	74	4300.8
1 1/4	1.484	15	176.71	40	1256.6	75	4417.8
1 1/2	1.767	151/2	188.69	41	1320.2	76	4536.4
15/8	2.073	16	201.06	42	1385.4	77	4656.0
13/4	2.405	161/2	213.82	43	1452.2	78	4778.3
17/8	2.761	17	226.98	44	1520.5	79	4901.6
2	3.141.	171/2	240.52	45	1590.4	80	5026.5
21/4	3.976	18	254.46	46	1661.9	81	5153.0
21/4	4.908	181/2	268.80	47	1734.9	82	5281.0
23/4	5.939	19	283.52	48	1809.5	83	5410.6
3	7.068	191/2	298.64	49	1885.7	84	5541.7
31/4	8.295	20	314.16	50	1963.5	85	5674.5
31/2	9.621	201/2	330.06	51	2042.8	86	5808.8
33/4	11.044	21	346.36	52	2123.7	87	5944.6
4	12.566	211/2	363.05	53	2206.1	88	6082.
41/2	15.904	22	380.13	54	2290.2	89	6221.
5	19.635	221/2	397.60	55	2375.8	90	6361.
51/2	23.758	23	415.47	56	2463.0	91	6503.8
5	28.274	231/2	433.73	57	2551.7	92	6647.6
61/2	33.183	24	452.39	58	2642.0	93	6792.
7	38.484	241/2	471.43	59	2733.9	94	6939.
71/2	44.178	25	490.87	60	2827.4	95	7088.2
8	50.265	26	530.93	61	2922.4	96	7238.
31/2	56.745	27	572.55	62	3019.0	97	7389.
91/2	63.617	28	615.75	63	3117.2	98	7542.
91/2	70.882	29	660.52	64	3216.9	99	7697.

To find the circumference of a circle when diameter is given, multiply the given diameter by 3.1416.

To find the diameter of a circle when circumference is given, multiply the given circumference by .31831.

Install ADELPHIA or PROGRESS and have the Best.

HINTS IN ORDERING ADELPHA AND PROGRESS BOILERS

First determine the size boiler required by accurately figuring the "job" according to the standard rules set down on page 18; then consult page 13 for data on ratings, and after ascertaining your requirements, select your ADELPHIA or PROGRESS coming nearest to your figures, being always liberal in your selection and selecting the size next larger to your figures rather than the size smaller. Always fit the boiler to the job; never the job to the boiler.

Bear in mind that the boiler selected should be ample to take care of requirements in zero weather, and then you will be assured of a reserve power that will insure length of life of the appliance itself, as well as economy in fuel consumption. The cost of ordinary maintenance of the sufficiently large boiler is not nearly so great as that of the undersized boiler being run under forced draft.

We maintain a special heating department, under the supervision of recognized engineers of ability. Their services are yours for the asking, in determining the type of apparatus, size, layout, etc. Bring your problems to us; let us help solve them. This service is free, alike to fitter, builder, architect or prospective homebuilder.

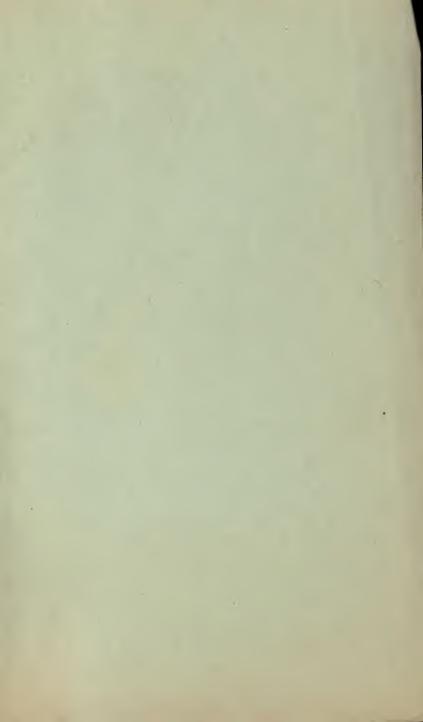
ACCESSORIES AND RADIATION

In addition to the boiler, we are in excellent position to furnish the necessary amount of smoke pipe, elbows, the necessary fittings and radiation (with the exception of cast iron laterals, risers and unions), to make up a complete steam or hot-water job, thus enabling the busy fitter to get his complete outfit of boiler, radiation and fittings from one house.

Radiation includes all the standard types of plain and ornamental in the regulation heights and varying columns, also Wall Radiation. In addition, Radiator valves for steam or water, union ells, air valves, expansion tanks, altitude gauges, thermometers, floor and ceiling plates, bronzing paints and liquids, make up the list of accessories.

Asbestos cement and asbestos air-cell covering can likewise be supplied upon order.

A descriptive booklet of radiation, showing the different styles, sizes and types, may be had for the asking.





REGISTERED II. S. PAT. OFFICE